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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,940	03/24/2004	Robert DeHaan	4415.28USD1	6879
23552	7590	06/28/2006	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			SINGH, PREM C	
			ART UNIT	PAPER NUMBER
			1764	
DATE MAILED: 06/28/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,940

Applicant(s)

DEHAAN ET AL.

Examiner

Prem C. Singh

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to because the entering stream of synthesis gas (carbon monoxide and hydrogen) to the Fischer-Tropsch (FT) reactor (1) is not shown.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berlowitz et al (US Patent 5,689,031).

Claim 1.

Berlowitz invention discloses, "In accordance with this invention, a clean distillate useful as a diesel fuel or as a diesel fuel blend stock is produced, preferably from a Fischer-Tropsch wax, by separating the waxy product into a heavier fraction and a lighter fraction. The heavier fraction contains primarily 700°F+(371°C+), and the lighter fraction contains primarily 700°F- (371°C-). The heavier fraction is subjected to hydroisomerization. At least a portion of the 700°F+ (371°C+) material is converted to 700°F- (371°C-) material. Subsequently, at least a portion and preferably all of the 700°F- (371°C-) material from hydroisomerization is combined with at least a portion and preferably all of the fraction (ii) which is preferably a 500-700°F (260-371°C) fraction and is further characterized by the absence of any hydrotreating, e.g., hydroisomerization. From the combined product a diesel fuel or diesel blending stock boiling in the range 250-700°F (121-371°C) is recovered." (Column 1, lines 45-67; column 2, lines 1-9).

Berlowitz invention does not specifically mention the separation step after step (b), the catalytic processing of the heavier fraction. It would have been obvious to one skilled in the art at the time the invention was made to modify Berlowitz invention and add a separation step to take only the portion useful in the middle distillate and separating the lighter and/or heavier fraction not suitable for the blend.

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Claims 2 and 3.

Berlowitz invention discloses, "The heavier fractions are subjected to hydroisomerization." (Column 1, lines 61-62). "While virtually any catalyst useful in hydroisomerization or selective hydrocracking may be satisfactory for this step." (Column 2, lines 51-52). "Ideally, a hydroisomerization reaction involves little or no cracking of the FT paraffin. Ideal conditions are not often achieved and some cracking to gases always accompanies this reaction." Column 3, lines 65-67; column 4, line 1).

Claim 4.

Berlowitz invention discloses, "The distillate is produced by further separating the 700°F- (371°C-) fraction into at least two other fractions: (i) one of which contains primary C₁₂+ alcohols and (ii) one of which does not contain such alcohols." (Column 1, lines 55-57).

Claims 5 and 6.

Berlowitz invention further discloses, "By virtue of using FT process, the recovered distillate has essentially nil sulfur and nitrogen. These heteroatom compounds are removed from methane containing natural gas." (Column 4, lines 56-60). "Oxygenated compounds including alcohols and some acids are produced during FT processing, but in at least one well known process, oxygenates and unsaturates are completely eliminated from the product by hydrotreating." (Column 5, lines 1-5).

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Claims 7 and 8.

Berlowitz invention discloses, "The heavier fraction contains primarily 700°F+ (371°C+), and the lighter fraction contains primarily 700°F- (371°C-)." (Column 1, lines 51-53).

Claims 9 and 10.

Berlowitz invention discloses, "The fraction (ii) is a C₅ – 500°F (C₅ – 260°C)." (Column 1, line 60).

Claims 11-14.

Berlowitz invention also discloses, "From the combined product a diesel fuel or diesel blending stock boiling in the range 250-700°F (121-371°C) is recovered." (Column 2, lines 7-8).

Claims 15-18.

Berlowitz invention discloses, "Subsequently, at least a portion and preferably all of the 700°F- (371°C-) material from hydroisomerization is combined with at least a portion and preferably all of the fraction (ii) which is 500-700°F fraction characterized by absence of any hydrotreating. From the combined product a diesel fuel or diesel blending stock boiling in the range 250-700°F is recovered and has the properties described below." (Column 1, line 67; column 2, lines 1—9).

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Although Berlowitz does not specifically mention the ratio of components obtained from steps (c) and (a), it would have been obvious to one skilled in the art at the time the invention was made to modify Berlowitz invention and use the claimed ratios for the desired diesel properties.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wittenbrink et al, US Patent 6,296,757.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prem C. Singh whose telephone number is 571-272-6381. The examiner can normally be reached on MF 6:30 AM-3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ps/060206



Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700

Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700